Comparisons of Job Characteristics

Focus Occupation: Microbiologists (19-1022)
Associated Occupation: Zoologists and Wildlife Biologists (19-1023)

Compare Knowledge
Compare Skills
Compare Abilities
Compare Detailed Work Activities
Compare Tools and Technologies

<<	Focus occupation element is much lower
<	Focus occupation element is lower
0	Focus occupation element is at a similar level
>	Focus occupation element is at a higher level
>>	Focus occupation element is at a much higher level

Knowledge

Similarity of Focus Occupation to Associated Occupation: 85

Focus Occupation: Microbiologists (19-1022)
Associated Occupation: Zoologists and Wildlife Biologists (19-1023)

Associated Occupation's Key Knowledge Elements	Average Rating, All Occupations	Associated Occupation's Rating	Focus Occupation's Rating		Evaluation of Focus Occupation
Biology	3.7	21.8	24.1	>	Current knowledge level is likely sufficient
Geography	3.9	11.7	4.0	<<	Extensive education and/or training may be required

The maximum possible rating is 25.

Source: Alaska Department of Labor and Workforce Development, Research and Analysis Section analysis of O*NET (Occupation Information Network) data.

Skills

Similarity of Focus Occupation to Associated Occupation: 92

Focus Occupation: Microbiologists (19-1022)
Associated Occupation: Zoologists and Wildlife Biologists (19-1023)

Associated Occupation's Key Skills Elements	Average Rating, All Occupations	Associated Occupation's Rating	Focus Occupation's Rating		Evaluation of Focus Occupation
Reading Comprehension	10.7	14.6	15.5	0	Current skill level may be sufficient
Writing	9.2	14.1	14.8	0	Current skill level may be sufficient
Science	4.5	13.6	17.0	>>	Skill level is likely more than sufficient
Systems Analysis	6.5	10.2	10.6	0	Current skill level may be sufficient
Systems Evaluation	6.4	9.4	9.9	0	Current skill level may be sufficient

The maximum possible rating is 25.

Source: Alaska Department of Labor and Workforce Development, Research and Analysis Section analysis of O*NET (Occupation Information Network) data.

Abilities

Similarity of Focus Occupation to Associated Occupation: 91

Focus Occupation: Microbiologists (19-1022)
Associated Occupation: Zoologists and Wildlife Biologists (19-1023)

Associated Occupation's Key Abilities Elements	Average Rating, All Occupations	Associated Occupation's Rating	Focus Occupation's Rating	Evaluation of Focus Occupation	
Oral Comprehension	12.5	16.7	15.3	0	Current ability level may be sufficient
Written Comprehension	11.0	16.0	16.5	0	Current ability level may be sufficient
Oral Expression	12.4	15.5	15.0	0	Current ability level may be sufficient
Written Expression	9.8	15.5	15.5	0	Current ability level may be sufficient
Category Flexibility	9.0	11.0	16.0	>>	Current ability level is likely more than sufficient

The maximum possible rating is 25.

Source: Alaska Department of Labor and Workforce Development, Research and Analysis Section analysis of O*NET (Occupation Information Network) data.

Activities that Both Occupations Have in Common

Similarity of Focus Occupation to Associated Occupation: 95

Focus Occupation: Microbiologists (19-1022)
Associated Occupation: Zoologists and Wildlife Biologists (19-1023)

Work Activities	Exclusivity of Activity
Adhere to safety procedures	12
Advise clients or customers	19
Advise governmental or industrial personnel	28
Analyze biological research, test, or analysis data	70
Analyze ecosystem data	69
Analyze scientific research data or investigative findings	27
Classify plants, animals, or other natural phenomena	69
Collect academic research data	62
Collect scientific or technical data	30
Collect statistical data	47
Communicate technical information	4
Conduct analyses or tests of organic compounds	71
Conduct field research or investigative studies	52
Conduct laboratory research or experiments	57
Conduct standardized qualitative laboratory analyses	62
Conduct standardized quantitative laboratory analyses	62
Confer with research personnel	50
Confer with scientists	54
Develop new products based on scientific research results	71
Develop or maintain databases	30
Develop plans for programs or projects	31
Develop policies, procedures, methods, or standards	21
Develop scientific or mathematical hypotheses, theories, or laws	62
Develop tables depicting data	33
Direct and coordinate activities of workers or staff	3
Direct and coordinate scientific research or investigative studies	27
Direct implementation of new procedures, policies, or programs	60
Examine biological or other material specimens under microscope	73

Explain complex mathematical information	30
Explain genetic data	87
Follow infectious materials procedures	52
Follow microbiology procedures	74
Follow safe waste disposal procedures	50
Maintain records, reports, or files	5
Make decisions	24
Make presentations	13
Perform statistical analysis	71
Plan scientific research or investigative studies	48
Prepare biological specimens for examination	84
Prepare reports	8
Prepare technical reports or related documentation	22
Prepare vaccines, biologicals, or serums	85
Recommend further study or action based on research data	60
Record test results, test procedures, or inspection data	48
Research human or animal disease	77
Resolve engineering or science problems	46
Study development of plants, animals, or microscopic organisms	92
Use biological research techniques	68
Use biological testing instruments	73
Use chemical testing or analysis procedures	54
Use computers to enter, access or retrieve data	3
Use hazardous materials information	35
Use knowledge of investigation techniques	16
Use laboratory equipment	60
Use library or online Internet research techniques	21
Use mathematical or statistical methods to identify or analyze problems	30
Use microscope	71
Use project management techniques	47
Use quantitative research methods	35
Use relational database software	26
Use scientific research methodology	21
Use spreadsheet software	18
Use teaching techniques	29
Use word processing or desktop publishing software	17
Write business project or bid proposals	48
Write research or project grant proposals	33
Write scholarly or technical research papers	36

Not all positions in these occupations will necessarily perform all of the listed activities. The exclusivity rating is an indication of how unique the activity is amongst all occupations. The maximum rating is 100. High scores indicate that only a small number of occupations engage in that activity.

Source: Alaska Department of Labor and Workforce Development, Research and Analysis Section analysis of O*NET (Occupation Information Network) data.

Tools and Technologies that Both Occupations Have in Common

Similarity of Focus Occupation to Associated Occupation: 72

Focus Occupation: Microbiologists (19-1022)
Associated Occupation: Zoologists and Wildlife Biologists (19-1023)

Tools and Technologies	Exclusivity
Autoclave and sterilizer equipment and accessories	12
Cameras	2
Chemical evaluation instruments and supplies	10
Computer printers	2
Computers	1
Content authoring and editing software	1
Data management and query software	1
Electrochemical measuring instruments and accessories	9
Gas analyzers and monitors	10
General laboratory glassware and plasticware and supplies	13
Indicating and recording instruments	2
Industry specific software	1
Information exchange software	1
Laboratory centrifuges and accessories	13
Laboratory cooling equipment	25
Laboratory enclosures and accessories	17
Laboratory incubating equipment	20
Laboratory ovens and accessories	15
Light and wave generating and measuring equipment	4
Network applications software	1
Pipettes and liquid handling equipment and supplies	16
Respiratory protection	6
Safety apparel	4
Sampling equipment	12
Specimen collection and transport containers and supplies	14
Spectroscopic equipment	10
Temperature and heat measuring instruments	6
Tissue culture and high throughput screening supplies	31
Viewing and observing instruments and accessories	4
Vision protection and accessories	3
Weight measuring instruments	7

Not all positions in these occupations will necessarily use all of the listed tools and technologies. The exclusivity rating is an indication of how unique the tool or technology is amongst all occupations. The maximum rating is 100. High scores indicate that only a small number of occupations use that tool or technology.

Source: Alaska Department of Labor and Workforce Development, Research and Analysis Section analysis of O*NET (Occupation Information Network) data.